REMARKS

Claims 14-21 and 23-26 are now in the application. By this Amendment, claims 14-21 and 23 have been amended. Claims 13 and 22 have been canceled without prejudice or disclaimer. Claim 18 has been amended in independent form. Support for the amendments to claim 18 is found at least at original claims 13 and 22. Support for the amendment to claim 16 is found at least at page 8, lines 27-30. Further, claims 14-17, 19-21, and 23 have been amended to change their dependency. Claims 25 and 26 have been added. Support for claims 25 and 26 is found at least at page 7, lines 12-16, and at page 7, lines 18-21, respectively. No new matter has been added.

Claims 16, 17, and 19 have been rejected under 35 U.S.C. §112, second paragraph, because the claim feature "when the filler" is considered to render these claims indefinite. Claims 16, 17, and 19 have been amended to obviate this rejection.

Claims 13, 15-17, 20, and 22 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Application Publication No. 2003/0068485 to Ramsey.

Claim 13 has been canceled and the dependency of claims 15-17, 20, and 22 has been changed to claim 18. Accordingly, this rejection is moot.

Claim 18 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Ramsey in view of U.S. Patent No. 5,453,454 to Alicke et al.

As appreciated by the Examiner, Ramsey fails to suggest a melt comprising talc as a nucleating agent, as recited in claim 18. However, the Office Action relies on Alicke for curing the deficiencies of Ramsey.

Ramsey suggests extruded or expanded polystyrene foam boards containing 2 to 25 weight percent of acicular particles, such as fiberglass, stone wool, metal wool, gypsum, quartz and wollastonite, which are used to make the foam boards termite resistant. Alicke, on the other hand, teaches neither insect resistant foam boards nor the use of acicular particles. A person

having ordinary skill in the art has therefore no motivation to combine Alicke with Ramsey because there is no indication that Alicke would confer any benefits on the termite-resistant foam articles of Ramsey.

Further, even if a person skilled in the art would combine the applied citations in the manner suggested, the Office Action fails to provide a reasoning why the skilled artisan would have chosen the particular cell regulator out of all the possible constituents and additives suggested in Alicke for the specific polymers that are neither preferred nor used in the examples of Ramsey and Alicke. Further, the skilled artisan would have had to select specific halogen-free blowing agents from among all the possible blowing agents, whereas Ramsey suggests various blowing agents including many halogenated blowing agents and many blowing agents, which are readily combustible at high temperatures.

Moreover, there would have been no reasonable expectation that combining Ramsey and Alicke would have yielded the surprising and unexpected results that are achievable with the claimed process. In particular, Examples 2,4 and 6 demonstrate that foam sheets comprising glass fiber or high amounts of chalk, manufactured in accordance with the claimed process, have a density similar to the unfilled sheets of the comparative examples, but a compressive strength that is markedly higher than those of the unfilled sheets. See page 15, line 8 to page 16, line 4, of Applicants' disclosure. Without limiting the general applicability of the claimed process, Example 4, a styrene-acrylonitrile copolymer with glass fiber filler has a density which is only 0.4 g/l, or 1.2%, higher than unfilled comparable example 3, but has a compressive strength that is 0.08 N/mm^2, or 25%, higher than comparative example 3. Such a result was neither foreseeable for the person skilled in the art nor suggested by the combined teachings of Ramsey and Alicke.

Claim 14 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Ramsey in view of U.S. Patent No. 4,987,179 to Duncan.

The Office Action relies on Duncan for suggesting using styrene-acrylonitrile copolymer within a range of 20 to 35% by weight. Duncan suggests at col. 3, lines 38 to 50, a process for

the production of fluid polymer polyol, which comprises polymerizing styrene and acrylonitrile in a liquid polyol. The poly(acrylonitrile/styrene)-copolymer of Duncan is neither isolated nor extruded to a foam sheet. The foam according to Ducan is a polyurethane foam, which is obtained by reacting the fluid polymer polyol with a polyfunctional isocyanate. See col. 4, lines 31 to 39. The citations are not combinable in the manner suggested because Ramsey suggests, at paragraph [0022], that the melt temperature must be sufficient to plastify or melt the polymer, and that the temperature is form 200 to 260 °C. Duncan, by contrast, suggest, at col. 3, lines 62-67, that it is important that the peroxydicarbonate catalysts suggested therein are used in a narrow range of temperatures of from 80 to 140 °C to obtain the desired products. Thus, combining Ramsey and Duncan would result either in undesired products or in no reaction at all because the plastifying or melting temperature is not reached.

Claim 21 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Ramsey in view of U.S. Patent No. 5,218,006 to Reedy et al.

The Office Action relies on Reedy for suggesting a mixture of a polymer containing a filler and a polymer not containing a filler. Reedy suggests the use of a masterbatch comprising monosodium citrate and bicarbonate encapsulated in vegetable oil as plasticizers. As set forth in col. 2, lines 21 to 39, the masterbatch mix improves the flow characteristics of the foam and increases the amount of inert gas concentration. The examples of Reedy describe only the preparation of the masterbatch but not the extrusion foaming of polystyrene. The amount of 0.2% silica in the masterbatch would result in an even lower amount in the polystyrene foam. An amount of 5 to 50% by weight of filler is not suggested in Reedy. Further, Reedy also gives no hint on how to improve compressive strength of a thermoplastic polymer foam.

Claim 19 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Ramsey in view of U.S. Patent No. 5,024,826 to Linton.

The Office Action relies on Linton for suggesting silica filler having an average particle diameter of 0.05 to 15 microns. Linton is not applied in a manner to cure the deficiencies of Ramsey discussed above.

In addition, the applied citations provide no suggestion for selecting the specific combination of features in new claims 25 and 26. Specifically, there is no indication to use a mixture of water and acetone as a blowing agent for producing a foam sheet based on polysulfones, polyetherimides or polyether ketones, as recited in claim 25; or using a mixture of water and CO_2 as a blowing agent for producing a foam sheet based on styrene-acrylonitrile copolymer (SAN), acrylonitrile-butadiene-styrene copolymer (ABS) or acrylonitrile-styrene-acrylate copolymer (ASA), as recited in claim 26.

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Applicants concurrently herewith submit the requisite fee for a Petition for a two-month Extension of Time. Applicants believe no additional fee is due with this response. However, if any additional fee is due, please charge our Deposit Account No. 22-0185, under Order No. 12810-00339-US1 from which the undersigned is authorized to draw.

Dated: January 27, 2009

Respectfully submitted,

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